

No Sleep Disturbances:
33.4%

2007

PENNSYLVANIA ASTHMA FOCUS REPORT

PREVALENCE & BEYOND: MEASURES OF ASTHMA MANAGEMENT & CONTROL

DEPARTMENT OF
HEALTH

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ASTHMA CONTROL PROGRAM

PENNSYLVANIA ASTHMA SURVEILLANCE SYSTEM

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INTRODUCTION

Asthma is a serious and growing health problem and is a significant health burden in the United States and in Pennsylvania. Asthma is a chronic disease that is characterized by repeated episodes of wheezing, breathlessness, chest tightness and nighttime or early morning coughing. Asthma attacks are caused by lung inflammation and a sudden narrowing of the lung's small airways in response to asthma triggers. Attacks can be mild, or they can become severe, serious and life threatening.

The cause of asthma remains unknown. A cure for asthma does not yet exist. However, with appropriate management of asthma, people with this chronic disease can prevent symptoms and attacks, minimize or eliminate time missed time from work or school, participate normally in athletic and physical activity and enjoy quality of life. Without appropriate management, asthma can exact a tremendous burden, even the risk of life itself.

This 2007 Pennsylvania Asthma Focus Report will provide a look at initial indicators of asthma management and control among adults in Pennsylvania who report that they have asthma. Data on how asthma affects attendance at work or limits normal daily activities, on how often and where one seeks treatment for asthma, on the frequency of asthma attacks, provide insight on the degree to which asthma is being adequately controlled in a given population.

In 2004 and 2005 the annual Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS) included questions from the Adult Asthma History Module. This survey obtained data on asthma management and control for Pennsylvania adults with asthma. This Focus Report will illustrate a number of results from those survey questions and offer limited, initial analysis. The Pennsylvania Asthma Surveillance System has plans to obtain asthma management and control data in future years that will include children and adults. Obtaining such data will assist efforts to track asthma management and control, and aid partners in asthma management to plan for appropriate interventions.

INTRODUCTION

The Burden of Asthma

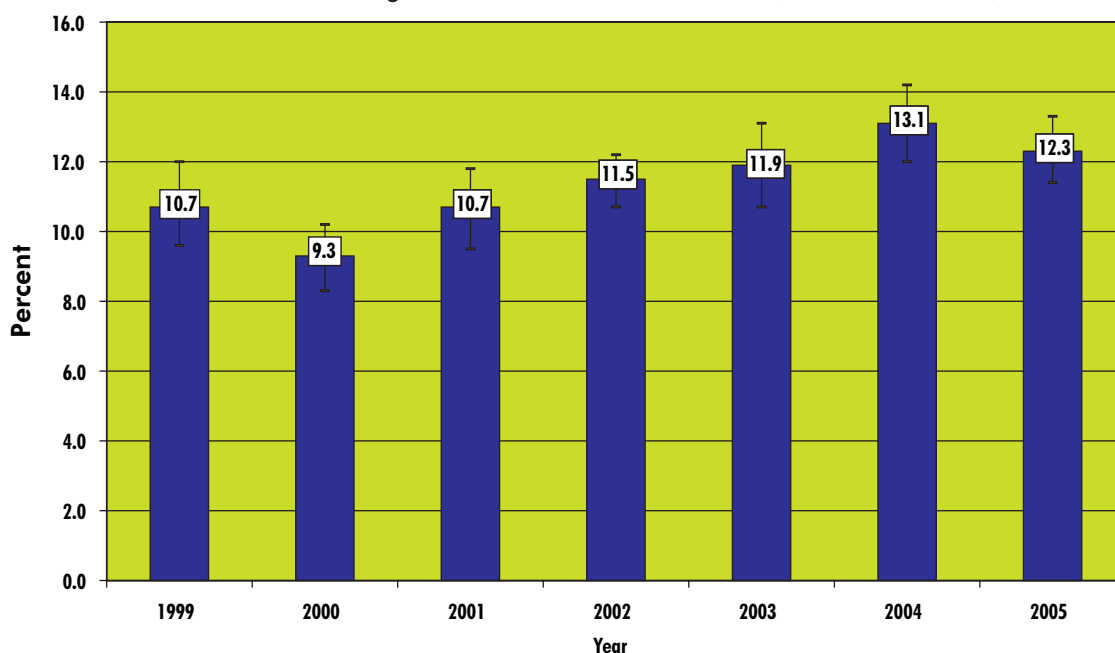
Although asthma can be managed, research shows that the burden of asthma is not declining. Asthma affects about one of every ten Pennsylvania adults and children. Burdens associated with asthma-related health effects, health care costs and quality of life continue to escalate both in the United States and in Pennsylvania.

In 2002, an estimated 30.8 million people in the United States reported that they had been diagnosed with asthma at some point in their lives, with 20 million reporting that they currently had a diagnosis of asthma. The economic costs associated with asthma for the nation in 2001 were estimated at \$14 billion.¹

In 2005, an estimated 12.3% (95% CI: 11.4-13.3) of adults in Pennsylvania reported being told by a health care professional at some point in their life that they had asthma. In 1999 (seven years earlier) an estimated 10.7% (CI: 9.5-11.9) of adults in the Commonwealth reported ever having been diagnosed with asthma. Over this seven-year period, it appears that the number of adults diagnosed with asthma is increasing.² (Figure 1)

Figure 1

PA Adults Diagnosed with Asthma: 1999-2005 (Source: PA BRFSS)

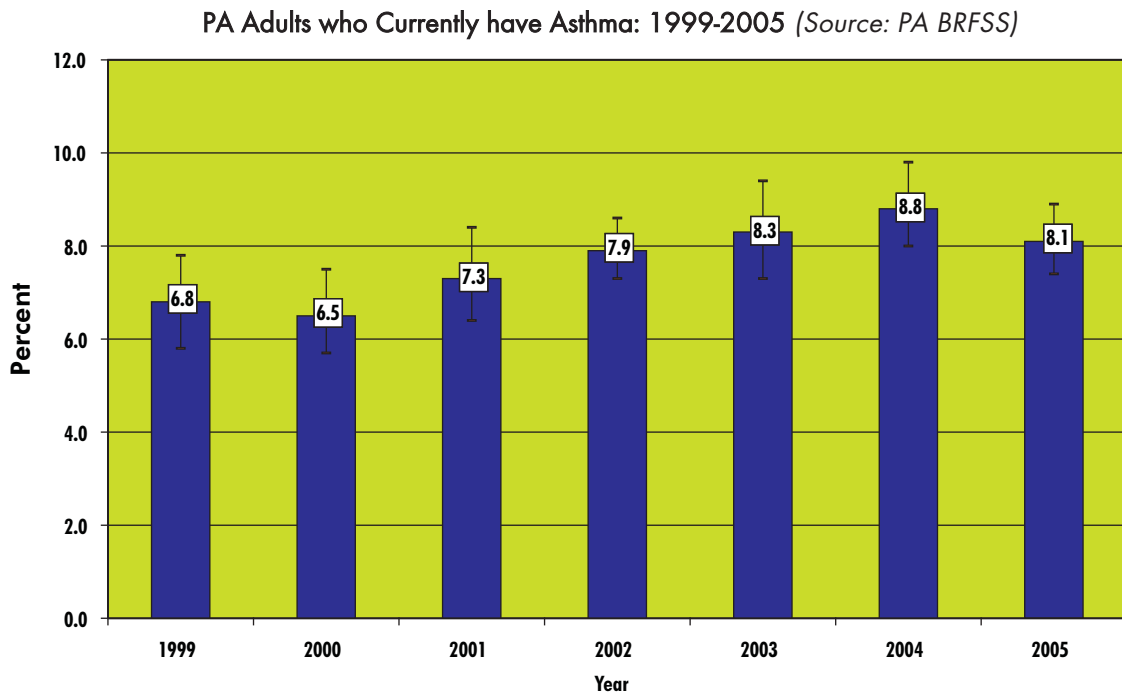


Year	Prevalence Estimate (%)	95% CI
1999	10.7	9.6 - 12.0
2000	9.3	8.3 - 10.2
2001	10.7	9.5 - 11.8
2002	11.5	10.7 - 12.2
2003	11.9	10.7 - 13.1
2004	13.1	12.0 - 14.2
2005	12.3	11.4 - 13.3

INTRODUCTION

In 2005, an estimated 8.1% (CI: 7.4-8.9) of adults in Pennsylvania reported that they currently have asthma. Seven years earlier, in 1999, an estimated 6.8% (CI: 5.8-7.8) reported having asthma. Over this seven-year period, it appears that the number of adults who currently have asthma is increasing.³ (Figure 2)

Figure 2



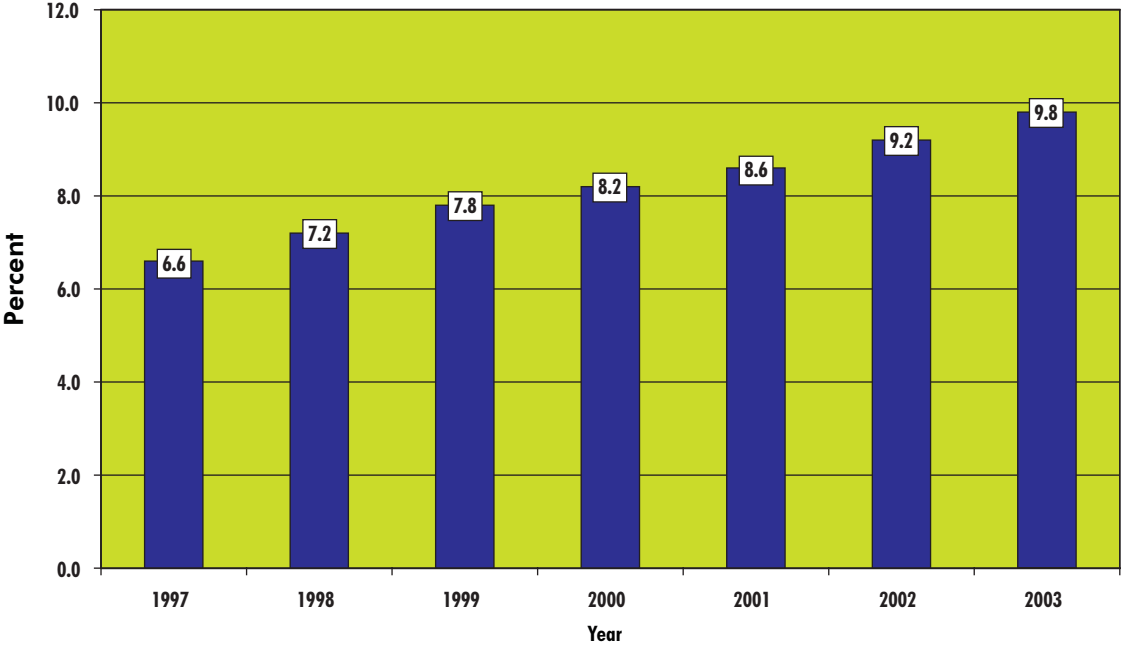
Year	Prevalence Estimate (%)	95% CI
1999	6.8	5.8 - 7.8
2000	6.5	5.7 - 7.5
2001	7.3	6.4 - 8.4
2002	7.9	7.3 - 8.6
2003	8.3	7.3 - 9.4
2004	8.8	8.0 - 9.8
2005	8.1	7.4 - 8.9

INTRODUCTION

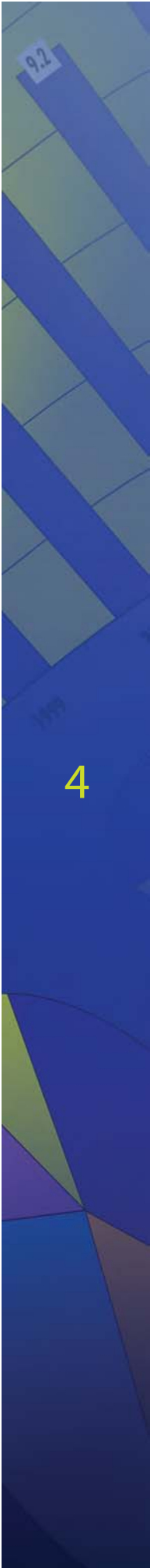
Over the seven-year period between 1997 and 2003, the reported prevalence rate among school children diagnosed with asthma in Pennsylvania shows an increase each year. In 1997, 6.6% of children in kindergarten through grade 12 in Pennsylvania schools had been diagnosed with asthma. In 2003, that rate was 9.8%.4 (Figure 3)

Figure 3

PA School Children Diagnosed with Asthma: 1997-2003 (Source: PA School Health Statistics)



Year	Percent
1997	6.6
1998	7.2
1999	7.8
2000	8.2
2001	8.6
2002	9.2
2003	9.8

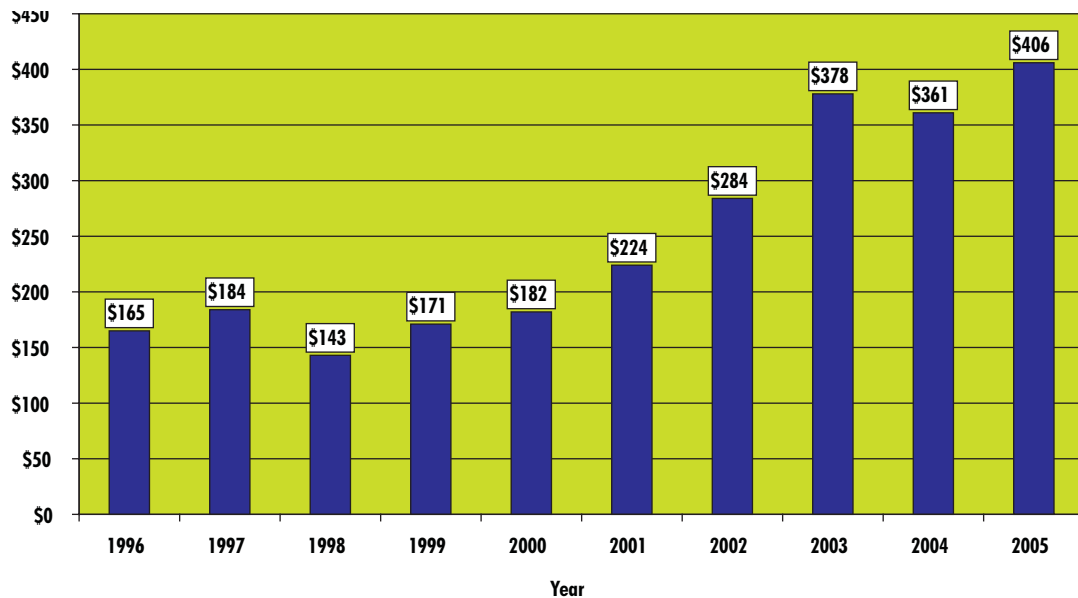


INTRODUCTION

As the reported prevalence of asthma in the Commonwealth increases, so too do the costs associated with asthma-related health care. In 2005, there were over 23,000 inpatient hospitalizations with asthma as a primary discharge diagnosis in Pennsylvania. Using an age-adjusted rate, 19 of every 10,000 Commonwealth hospital admissions were due to asthma. The total charges for asthma-related inpatient hospital admissions in Pennsylvania nearly tripled over the 10-year period from 1996 through 2005. In 1996 those charges, which did not include physician fees, equaled about \$165 million. In 2005, those charges increased to approximately \$406 million.⁵ (Figure 4)

Figure 4

Charges for PA Asthma Hospitalizations*: 1996-2005
 *asthma as the primary discharge diagnosis
 (Source: Pennsylvania Health Care Cost Containment Council)



Year	In Millions
1996	\$165
1997	\$184
1998	\$143
1999	\$171
2000	\$182
2001	\$224
2002	\$284
2002	\$378
2002	\$361
2002	\$406

INTRODUCTION

Assessing Asthma Control and Management

Addressing and intervening to reduce the burden of asthma in Pennsylvania requires a comprehensive approach. One key component of this approach is asthma surveillance. Pennsylvania has been tracking the prevalence of asthma for a decade through the Pennsylvania Behavioral Risk Factor Surveillance System (PA BRFSS) and through Pennsylvania School Health Statistics. These data sources give valuable information about the estimated number of people in the Commonwealth who have asthma, as well as information about different age groups, racial and ethnic groups and regions where asthma prevalence might be higher or lower than prevalence in the state as a whole.

Estimated prevalence trends provide a key tool for directing asthma interventions to reduce asthma's burden. Measures of asthma management and control can provide valuable information enabling interventions to be targeted more specifically at populations and regions where this disease could be better controlled.

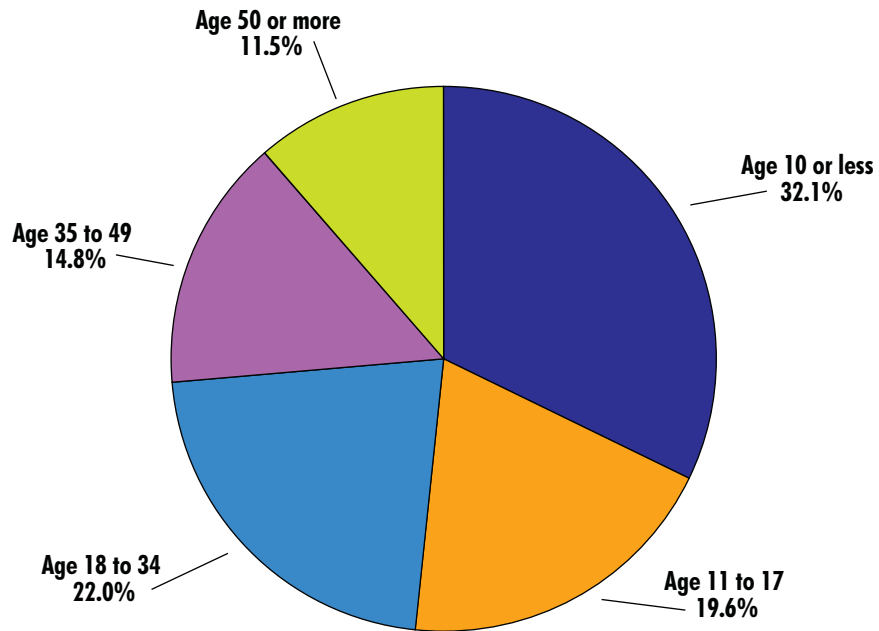
In 2004 and 2005, PA BRFSS included the Asthma Adult History Module. With the data from this module, asthma surveillance in Pennsylvania has moved beyond estimates of asthma prevalence and now has baseline data regarding estimates of management and control among Pennsylvanian adults with asthma. This Adult History Module data provides indicators of asthma control such as activity limitations and days missed from work, frequency of asthma symptoms and attacks, sleep disturbances related to asthma, and the frequency of emergency, urgent and routine care.

The 2006 Pennsylvania Asthma Burden Report did not contain information on estimates of asthma management and control. It is important to emphasize that the purpose of this 2007 Focus Report is to provide initial, baseline information on data in Pennsylvania that gives indications of asthma management and control. Plans are in place to maintain and expand the collection of these assessments in future years and to include children. Both current baseline and future data will provide valuable information in the task of identifying, tracking, addressing and reducing the burden of asthma in Pennsylvania, especially where surveillance data shows the greatest needs.

The following section of this report will provide the reader with an initial picture of indicators of asthma management and control for adults with asthma in Pennsylvania.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Age of Asthma Diagnosis Among Adults with Asthma* Pennsylvania 2004 - 2005 (combined)



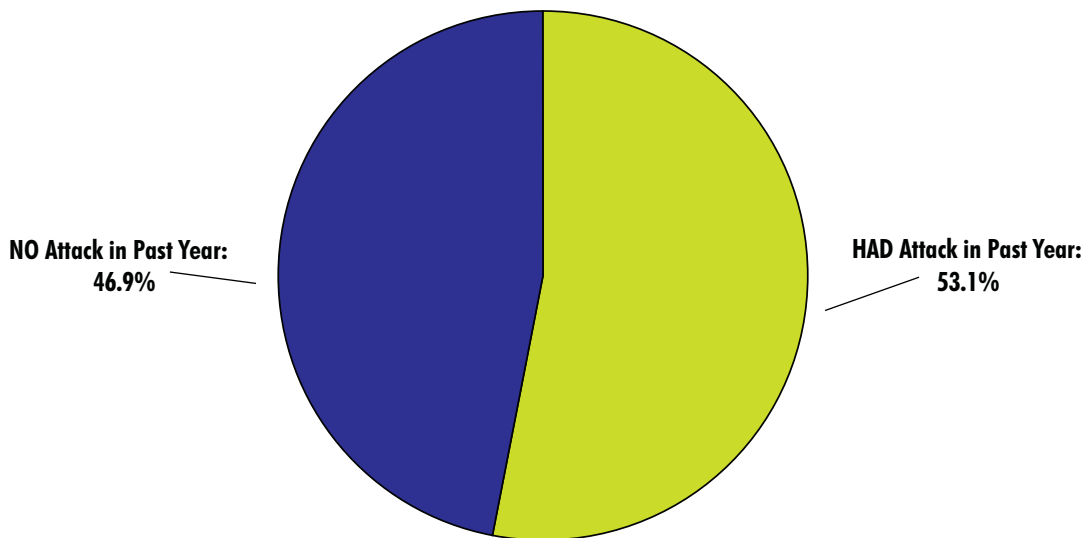
Age at Diagnosis	Prevalence Estimate (%)	95% CI
10 or less	32.1	29.0 - 35.3
11 - 17	19.6	17.0 - 22.4
18 - 34	22.0	19.7 - 24.5
35 - 49	14.8	13.0 - 16.8
50 or more	11.5	10.0 - 13.1

*The question asked of the respondent was: "How old were you when you were first told by a doctor, nurse or other health professional that you had asthma?"

The age at which a person was first diagnosed with asthma varies. Those diagnosed at age 10 or younger had the highest percentage at 32.1% while those diagnosed at age 50 or older had the lowest percentage at 11.5%.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Adults with Asthma Having Asthma Attacks in the Past Year* Pennsylvania 2004 - 2005 (combined)



Had an Asthma Attack in the Past Year	Prevalence Estimate (%)	95% CI
YES	53.1	49.4 - 56.8
NO	46.9	43.2 - 50.6

*Question asked of the respondent: "During the past 12 months, have you had an episode of asthma or an asthma attack?"

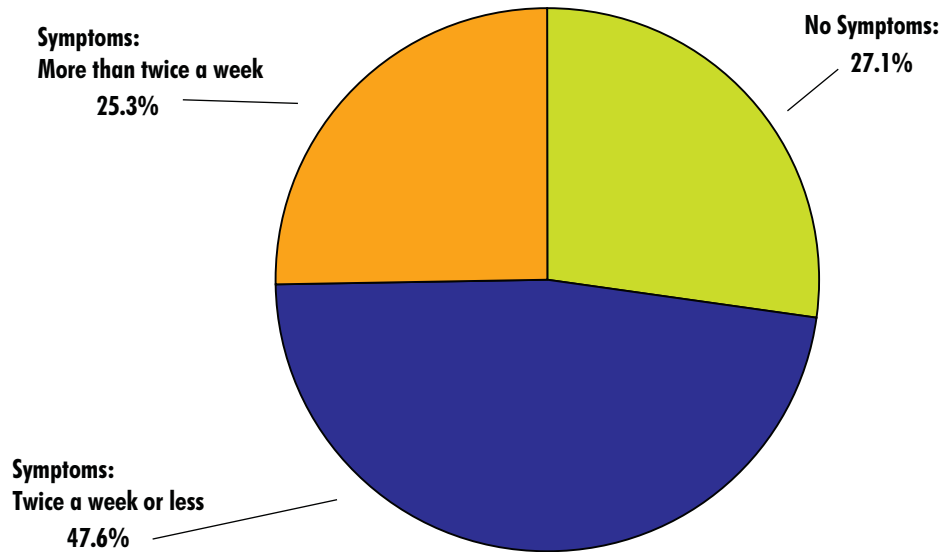
Among adults with asthma, 53.1% had episodes of asthma or attacks during the past 12 months; 46.9% did not.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Frequency of Asthma Symptoms*

Pennsylvania 2004 - 2005 (combined)

All Adults with Asthma



Asthma Symptoms	Prevalence Estimate (%)	95% CI
None	27.1	24.0 - 30.5
Twice a week or less	47.6	43.9 - 51.3
More than twice a week	25.3	22.3 - 28.6

*The question asked of the respondent: "During the past 30 days, on how many days did you have any symptoms of asthma?"

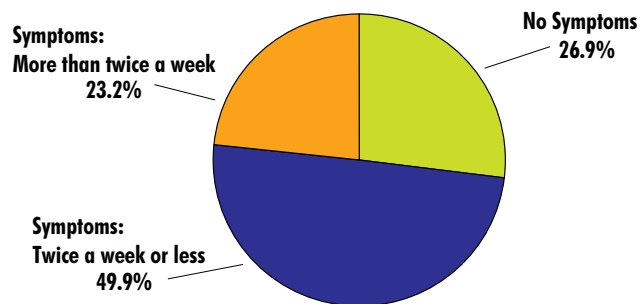
Among adults with asthma, 27.1% had no symptoms of asthma during the past 30 days; 47.6% experienced symptoms twice a week or less; and 25.3% had symptoms up to twice a week.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Frequency of Asthma Symptoms*

Pennsylvania 2004 - 2005 (combined)

Adults with Health Care Coverage



Asthma Symptoms	Prevalence Estimate (%)	95% CI
None	26.9	23.4 - 30.7
Twice a week or less	49.9	45.7 - 54.1
More than twice a week	23.2	20.0 - 26.8

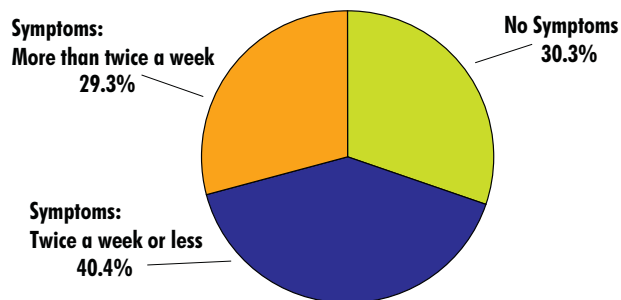
*The questions asked of the respondent were:

"During the past 30 days, on how many days did you have any symptoms of asthma?"

"Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?"

Among adults with asthma who had health care coverage, 26.9% had no symptoms of asthma during the past 30 days; 49.9% had symptoms up to twice a week; and 23.2% had symptoms more than twice a week.

Adults with No Health Care Coverage



Asthma Symptoms	Prevalence Estimate (%)	95% CI
None	30.3	19.8 - 43.4
Twice a week or less	40.4	27.7 - 54.5
More than twice a week	29.3	19.0 - 42.3

*The questions asked of the respondent were:

"During the past 30 days, on how many days did you have any symptoms of asthma?"

"Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?"

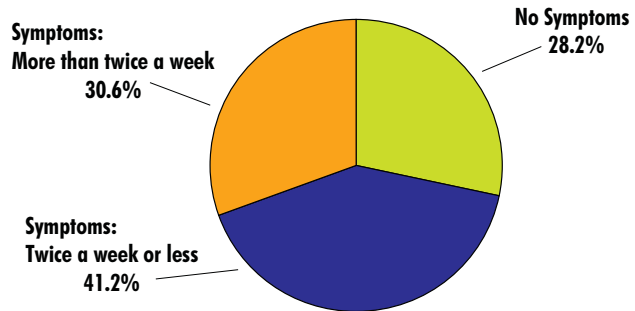
Among adults with asthma who did not have health care coverage, 30.3% had no symptoms of asthma during the past 30 days; 40.4% had symptoms up to twice a week; and 29.3% had symptoms more than twice a week.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Frequency of Asthma Symptoms*

Pennsylvania 2004 - 2005 (combined)

Adult Smokers with Asthma



Asthma Symptoms	Prevalence Estimate (%)	95% CI
None	28.2	19.7 - 38.6
Twice a week or less	41.2	32.6 - 50.3
More than twice a week	30.6	23.4 - 39.0

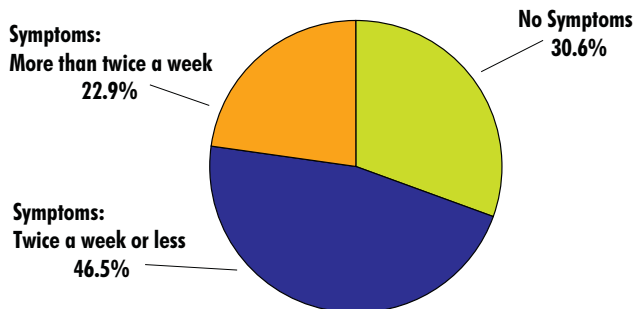
*The questions asked of the respondent were:

"During the past 30 days, on how many days did you have any symptoms of asthma?"

"Do you now smoke cigarettes every day, some days, or not at all?"

Among adults with asthma who currently smoke, 28.2% had no symptoms of asthma during the past 30 days; 41.2% had symptoms up to twice a week; and 30.6% had symptoms more than twice a week.

Adult Non-Smokers with Asthma



Asthma Symptoms	Prevalence Estimate (%)	95% CI
None	30.6	25.7 - 36.0
Twice a week or less	46.5	40.8 - 52.3
More than twice a week	22.9	18.8 - 27.6

*The questions asked of the respondent were:

"During the past 30 days, on how many days did you have any symptoms of asthma?"

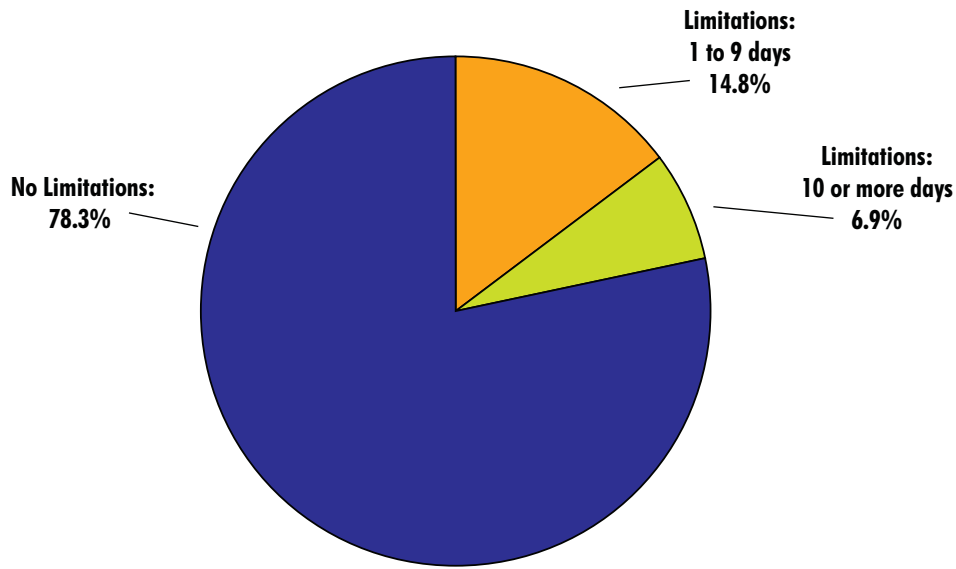
"Do you now smoke cigarettes every day, some days, or not at all?"

Among adults with asthma who do not smoke, 30.6% had no symptoms of asthma during the past 30 days; 46.5% had symptoms up to twice a week; and 22.9% had symptoms more than twice a week.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Activity or Work Limitations Due to Asthma (in the past 12 months)* Pennsylvania 2004 - 2005 (combined)

All Adults with Asthma



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
Limited on 1 - 9 days	14.8	12.3 - 17.6
Limited on 10 or more days	6.9	5.3 - 9.0
No limitations	78.4	77.2 - 81.2

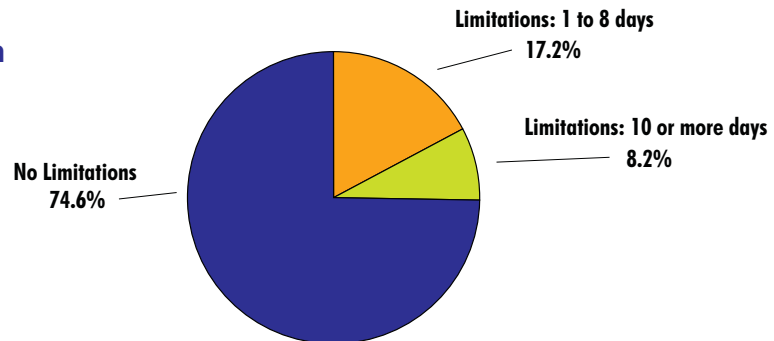
*The question asked of the respondent: "During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"

In the previous 12 months, among adults with asthma, 14.8% were unable to work or carry out their usual activities for one to nine days, 6.9% were unable to work or carry out their usual activities for 10 or more days and 78.4% experienced no limitations.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Activity or Work Limitations Due to Asthma (in the past 12 months)* Pennsylvania 2004 - 2005 (combined)

Adult Women with Asthma

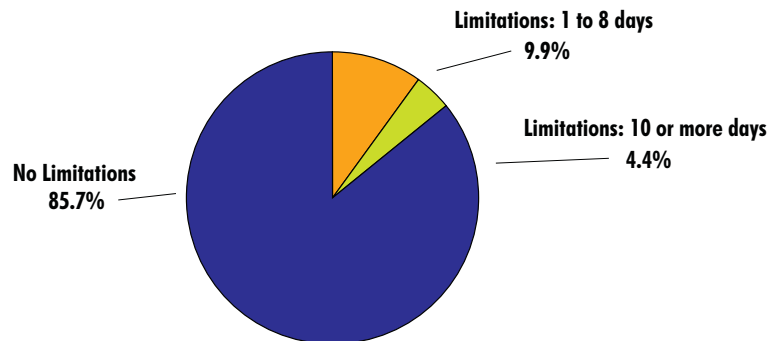


Activity or Work Limitations	Prevalence Estimate (%)	95% CI
Limited on 1 - 9 days	17.2	14.2 - 20.8
Limited on 10 or more days	8.2	6.0 - 11.0
No limitations	74.6	70.6 - 78.2

*The question asked of the respondent was: "During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"

In the previous 12 months, among women with asthma, 25.4% were unable to work or carry out their usual activities for one or more days and 74.6% experienced no limitations.

Adult Men with Asthma



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
Limited on 1 - 9 days	9.9	6.6 - 14.7
Limited on 10 or more days	4.4	2.6 - 7.5
No Limitations	85.7	80.5 - 89.7

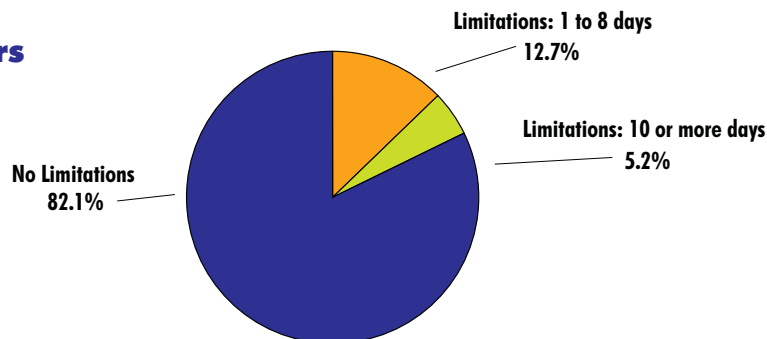
*The question asked of the respondent was: "During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"

In the previous 12 months, among men with asthma, 14.3% were unable to work or carry out their usual activities for one or more days and 85.7% experienced no limitations.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Activity or Work Limitations Due to Asthma (in the past 12 months)* Pennsylvania 2004 - 2005 (combined)

Adult Non-Smokers with Asthma



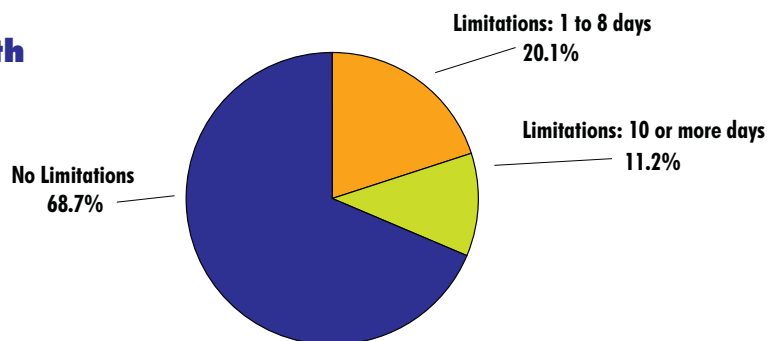
Activity or Work Limitations	Prevalence Estimate (%)	95% CI
Limited on 1 - 9 days	12.7	10.1 - 15.7
Limited on 10 or more days	5.2	3.8 - 7.1
No limitations	82.1	78.8 - 85.1

*The questions asked of the respondent were:

"During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"
"Do you now smoke cigarettes every day, some days, or not at all?"

In the previous 12 months, among non-smokers with asthma, 12.7% were unable to work or carry out their usual activities for one to nine days, 5.2% were unable to work or carry out their usual activities for 10 or more days and 82.1% experienced no limitations.

Adult Smokers with Asthma



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
Limited on 1 - 9 days	20.1	14.9 - 26.5
Limited on 10 or more days	11.2	7.2 - 17.0
No limitations	68.7	61.5 - 75.1

*The questions asked of the respondent were:

"During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"
"Do you now smoke cigarettes every day, some days, or not at all?"

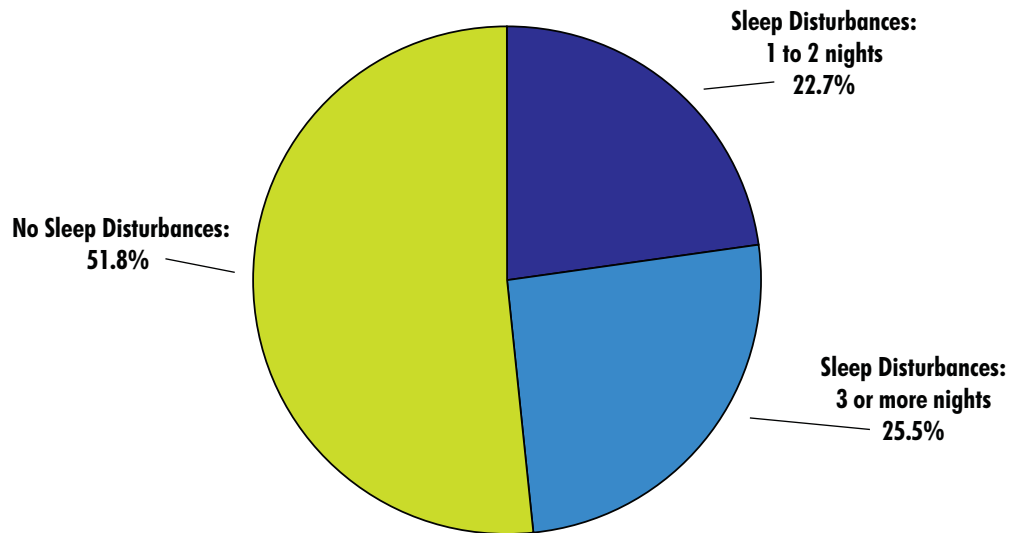
In the previous 12 months, among smokers with asthma, 20.1% were unable to work or carry out their usual activities for one to nine days, 11.2% were unable to work or carry out their usual activities for 10 or more days and 68.7% experienced no limitations.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Sleep Disturbances Due to Asthma (in the past 30 days)*

Pennsylvania 2004 - 2005 (combined)

All Adults with Asthma



Sleep Disturbances in Past 30 days	Prevalence Estimate (%)	95% CI
1 - 2 nights	22.7	19.3 - 26.5
3 or more nights	25.5	22.0 - 29.4
No sleep disturbances	51.8	47.3 - 52.2

*Question asked of the respondent: "During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?"

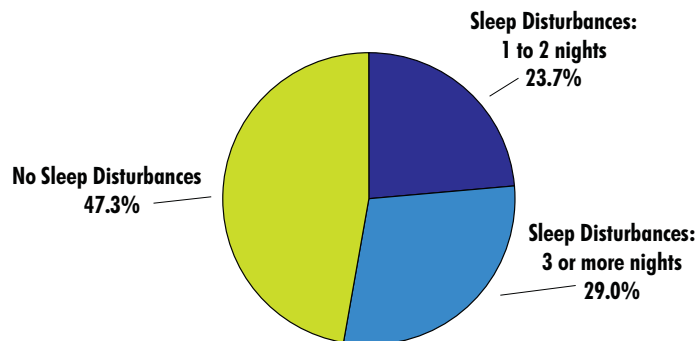
Among adults with asthma during the previous 30 days, 22.7% experienced asthma symptoms causing sleep disturbances for one to two nights, 25.5% experienced asthma symptoms causing sleep disturbances for three or more nights and 51.8% experienced no asthma-related sleep disturbances.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Sleep Disturbances Due to Asthma (in the past 30 days)*

Pennsylvania 2004 - 2005 (combined)

Adult Women with Asthma

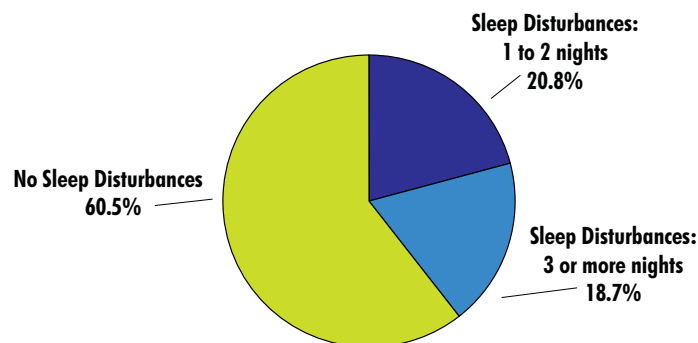


Activity or Work Limitations	Prevalence Estimate (%)	95% CI
1 - 2 nights	23.7	19.7 - 28.2
3 or more nights	29.0	24.7 - 33.7
No sleep disturbances	47.3	42.4 - 52.2

*Question asked of the respondent: "During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?"

Among adult women with asthma during the previous 30 days, 23.7% experienced asthma symptoms causing sleep disturbances one to two nights, 29.0% experienced asthma symptoms causing sleep disturbances three or more nights and 47.3% experienced no asthma-related sleep disturbances.

Adult Men with Asthma



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
1 - 2 nights	20.8	15.0 - 28.0
3 or more nights	18.7	13.4 - 25.4
No sleep disturbances	60.5	52.1 - 68.4

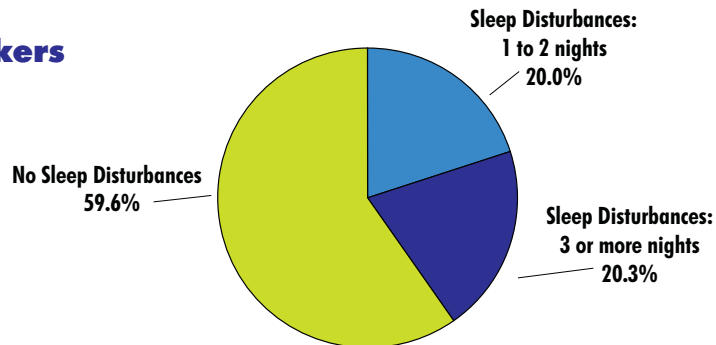
*Question asked of the respondent: "During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?"

Among adult men with asthma during the previous 30 days, 20.8% experienced asthma symptoms causing sleep disturbances one to two nights, 18.7% experienced asthma symptoms causing sleep disturbances three or more nights and 60.5% experienced no asthma-related sleep disturbances.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Sleep Disturbances Due to Asthma (in the past 30 days)* Pennsylvania 2004 - 2005 (combined)

Adult Non-Smokers



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
1 - 2 nights	20.0	16.3 - 24.3
3 or more nights	20.3	16.7 - 24.5
No sleep disturbances	59.6	54.5 - 64.6

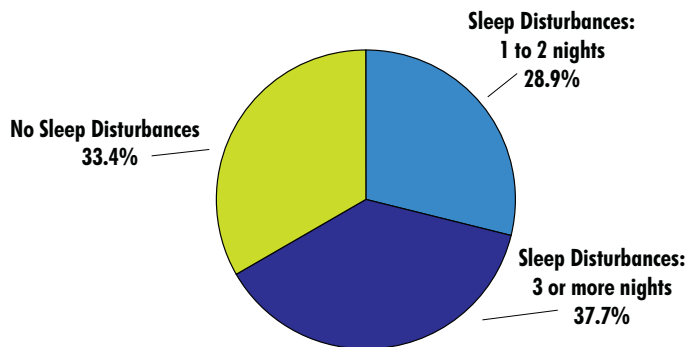
*Questions asked of the respondent:

"During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?"

"Do you now smoke cigarettes every day, some days, or not at all?"

Among adult non-smokers with asthma during the previous 30 days, 20.0% experienced asthma symptoms causing sleep disturbances one to two nights, 20.3% experienced asthma symptoms causing sleep disturbances three or more nights and 59.6% experienced no asthma-related sleep disturbances.

Adult Smokers



Activity or Work Limitations	Prevalence Estimate (%)	95% CI
1 - 2 nights	28.9	22.2 - 36.8
3 or more nights	37.7	30.3 - 45.7
No sleep disturbances	33.4	26.7 - 40.8

*Questions asked of the respondent:

"During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?"

"Do you now smoke cigarettes every day, some days, or not at all?"

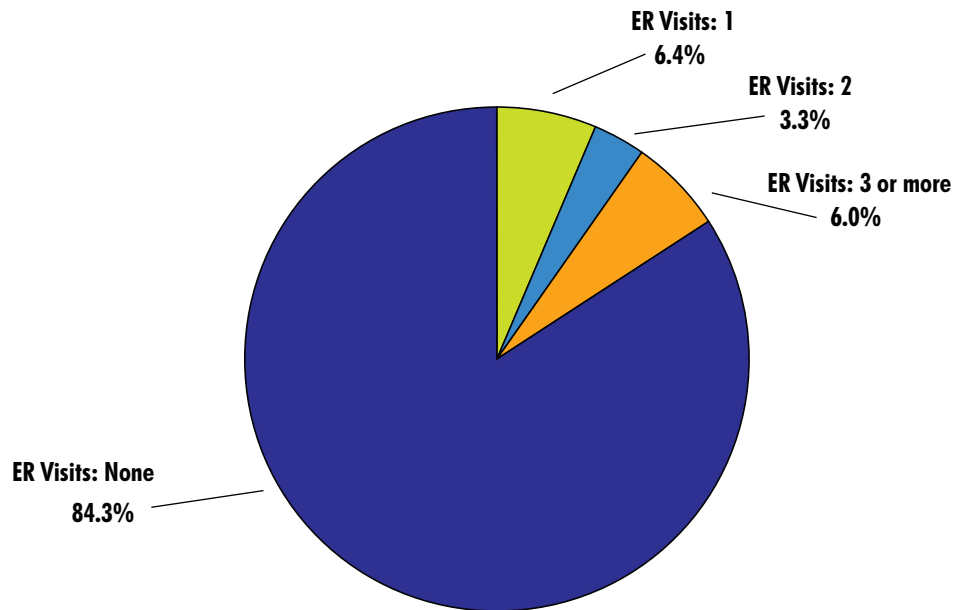
Among adult smokers with asthma in the previous 30 days, 28.9% experienced asthma symptoms causing sleep disturbances one to two nights, 37.7% experienced asthma symptoms causing sleep disturbances three or more nights and 33.4% experienced no asthma-related sleep disturbances.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Asthma Treatment and Care

Pennsylvania 2004 - 2005 (combined)

Emergency Care in the Past Year (adults with asthma)*



Sought Emergency Care	Prevalence Estimate (%)	95% CI
1 time	6.4	4.7 - 8.7
2 times	3.3	2.3 - 4.7
3 or more times	6.0	4.4 - 8.1
No emergency care	84.3	81.3 - 86.8

*Question asked of the respondent: "During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?"

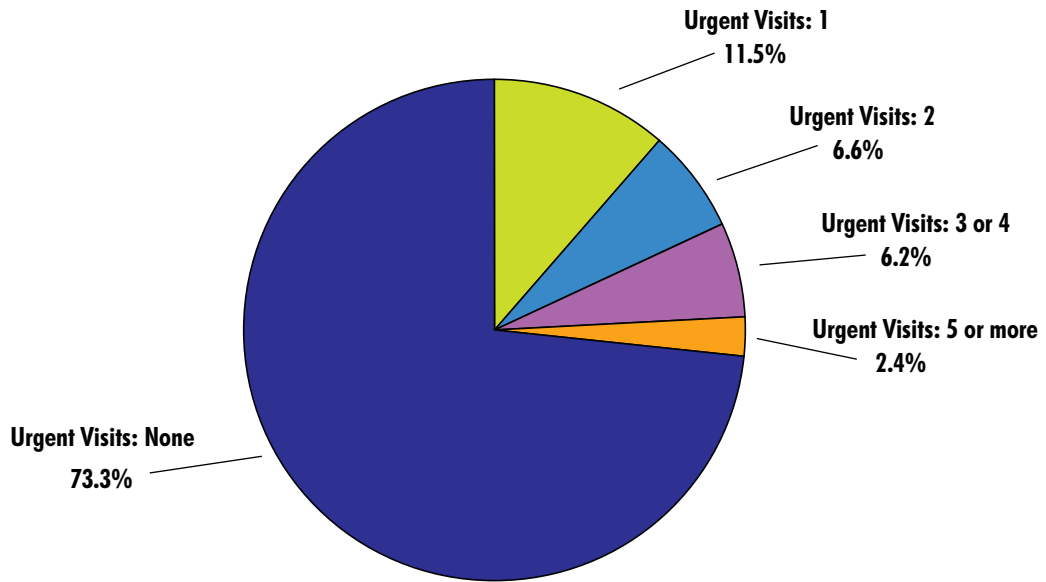
Among adults with asthma during the previous 12 months, 6.4% sought emergency treatment for asthma once, 3.3% sought emergency treatment for asthma two times, 6.0% sought emergency treatment for asthma three or more times and 84.3% did not seek emergency care for asthma during this period.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Asthma Treatment and Care

Pennsylvania 2004 - 2005 (combined)

Urgent Treatment in the Past Year (adults with asthma)*



Sought Urgent Treatment	Prevalence Estimate (%)	95% CI
1 time	11.5	9.5 - 14.0
2 times	6.6	5.0 - 8.6
3 or 4 times	6.2	4.7 - 8.2
5 or more times	2.4	1.6 - 3.7
No urgent care	73.3	70.0 - 76.3

* The question asked of the respondent: "During the past 12 months, how many times did you see a doctor, nurse or other health care professional for urgent treatment of worsening asthma symptoms?"

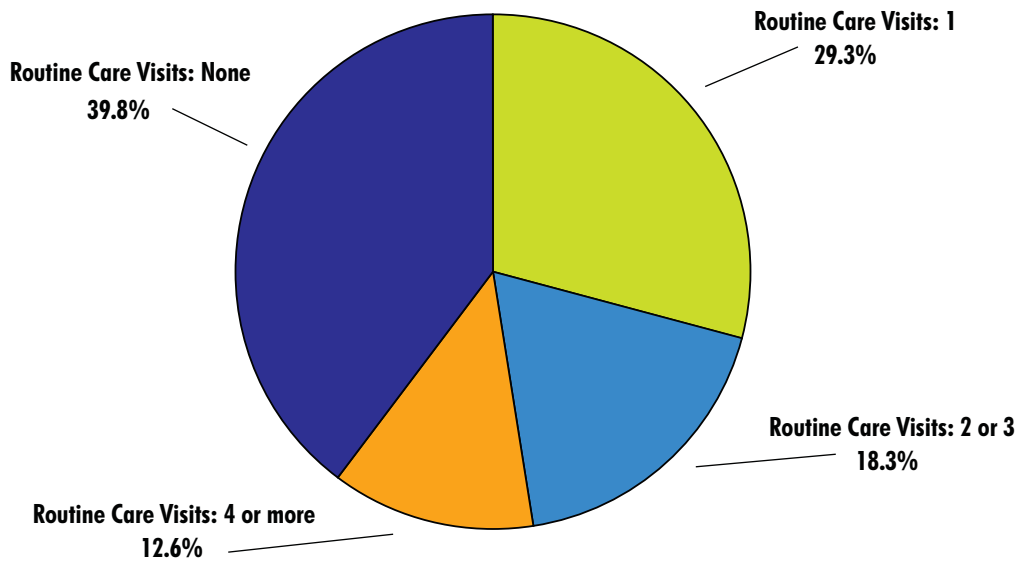
Among adults with asthma during the previous 12 months, 11.5% sought urgent treatment for asthma once, 6.6% sought urgent treatment for asthma twice, 6.2% sought urgent treatment for asthma three or four times, 2.4% sought urgent treatment for asthma five or more times and 73.3% did not seek urgent treatment for asthma.

MEASURES OF ASTHMA MANAGEMENT AND CONTROL

Asthma Treatment and Care

Pennsylvania 2004 - 2005 (combined)

Routine Care in the Past Year (adults with asthma)*



Sought Routine Care	Prevalence Estimate (%)	95% CI
1 visit	29.3	25.9 - 32.9
2 or 3 visits	18.3	15.7 - 21.2
4 or more visits	12.6	10.5 - 15.1
No routine care	39.8	36.2 - 43.5

*The question asked of the respondent: "During the past 12 months, how many times did you see a doctor, nurse or other health care professional for a routine checkup for your asthma?"

Among adults with asthma during the previous 12 months, 29.3% sought routine care for asthma once, 18.3% sought routine care for asthma two or three times, 12.6% sought routine care for asthma four or more times and 39.8% did not seek routine care for asthma.

METHODS

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual survey conducted independently by states and coordinated through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). The Pennsylvania Behavioral Risk Factor Surveillance System (PA BRFSS) is an ongoing random-digit dialed telephone survey of adults concerning health-related behaviors.

In 2004 and 2005, questions from the Adult Asthma History Module were asked in addition to the asthma surveillance questions in the core of PA BRFSS. This module included a detailed interview regarding asthma which was conducted among those who reported having been told by a health care professional at some time in their lives that they had asthma, or if they reported that they currently had asthma. Included in the Adult Asthma History Module were questions designed to measure the prevalence of asthma symptoms, asthma attacks, missed work days and limited activities due to asthma, sleep difficulties related to asthma, use of emergency room and urgent care due to asthma and routine medical asthma care.

In 2004, 6,097 Pennsylvania adults were interviewed. In 2005, 13,378 Pennsylvania adults were interviewed. The number of respondents on each of the different questions in the Adult History Module varied. Data from the 2004 and 2005 modules were combined to increase the sample size in order to provide a more precise estimate of prevalence in Pennsylvania for each question.

The sample data were weighted to reflect unequal probabilities of selection. Post-stratification weights were computed to adjust for over and under-representation of certain population subgroups in the samples. The measures of asthma management and control found in this report have been shown as percentage prevalence, with unknown or refused responses removed for calculations.

It is important to note that BRFSS data are not absolute figures due to the variability of the data. Confidence Intervals (CI) are presented for all BRFSS data in this report. A CI is composed of two figures (upper and lower limits) computed specifically for a rate. That range identifies the variability of the rate, i.e., 95% of the time, the true rate (unaffected by chance variation or number of events) will occur within that range. CI's in this report were calculated at the 95% level using SAS9.1/SUDAAN and are shown as percentages to provide a basis for quality analysis and comparability.

MORE INFORMATION ON ASTHMA IN PENNSYLVANIA

2006 Pennsylvania Asthma Burden Report

2006 Pennsylvania Asthma Burden Report was developed by the Pennsylvania Department of Health and was published in 2006. The Report was an initial step in the effort to systematize available data on the burden of asthma in the Commonwealth, identifying and illustrating the health burden, economic costs and prevalence of asthma. The Report uses data collected through the Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS), Pennsylvania School Health Statistics, Pennsylvania Health Care Cost Containment Council (PHC4) and Pennsylvania Vital Statistics. Detailed data, tables, graphs and reports provide state-wide statistics as well as county and regional asthma data where available. To learn more about Pennsylvania's asthma burden, review the **2006 Pennsylvania Asthma Burden Report**, available on the web (http://www.dsf.health.state.pa.us/health/lib/health/asthma/PA_Asthma_Burden_Report_2006.pdf) or in print by request to the Pennsylvania Department of Health Public Health Information Clearinghouse (<http://webserver.health.state.pa.us/health/padohric/>), publication number 302381.

2006 Pennsylvania Asthma Action Plan

The 2006 Pennsylvania Asthma Action Plan is a comprehensive plan, created to reduce the burden of asthma in Pennsylvania residents. Pennsylvania's state asthma plan was developed by a coalition of over 20 public and private groups in the Commonwealth and coordinated by the Pennsylvania Department of Health through a cooperative agreement with the Centers for Disease Control and Prevention. This plan contains recommendations for a comprehensive approach to addressing asthma in Pennsylvania and is for use by all who share the vision of coordinating efforts to improve asthma control and management. The **2006 Pennsylvania Asthma Action Plan** is available on the web (http://www.dsf.health.state.pa.us/health/lib/health/asthma/PA_Asthma_Action_Plan_2006.pdf) or in print by request to the Pennsylvania Department of Health Public Health Information Clearinghouse (<http://webserver.health.state.pa.us/health/padohric/>), publication number 302380.

Pennsylvania Asthma Surveillance System

The **Pennsylvania Asthma Surveillance System** is a collection of epidemiological asthma-related data for the purposes of tracking and analyzing the relative burden of this chronic disease in Pennsylvania. The systematic collection, analysis, tracking and reporting of the prevalence, morbidity and mortality of asthma in Pennsylvania provide data to enable state, county and local priorities to be set in the investment of public health resources for interventions. The same surveillance data provides the ultimate yardstick for measuring the impact of intervention. The Pennsylvania Asthma Surveillance System was established in 2003 when the Pennsylvania Department of Health was awarded a cooperative agreement from the Centers for Disease Control and Prevention to "Address Asthma from a Public Health Perspective." Housed within the Bureau of Epidemiology, the PA Asthma Surveillance System is an integral component of the Department's Asthma Control Program. The Pennsylvania BRFSS and Pennsylvania School Health Statistics are sources for asthma prevalence data. Pennsylvania Health Care Cost Containment Council data provides a key source of asthma morbidity and hospital data. Pennsylvania Vital Statistics is the source for asthma mortality data. Along with these existing data sources, building capacity to track the burden of asthma in Pennsylvania by working with other partners in the Commonwealth who collect asthma data and asthma-related data is an on-going objective for the Pennsylvania Asthma Surveillance System.

END NOTES

¹ Centers for Disease Control and Prevention: www.cdc.gov/asthma/program.htm Accessed April 2007

² Source: Pennsylvania Department of Health Asthma Surveillance System using **Behavioral Risk Factor Surveillance System** data. For more information see 2006 Pennsylvania Asthma Burden Report and the PA Department of Health website www.health.state.pa.us

³ Source: Pennsylvania Department of Health Asthma Surveillance System using **Behavioral Risk Factor Surveillance System** data. For more information see 2006 Pennsylvania Asthma Burden Report and the PA Department of Health website www.health.state.pa.us

⁴ Source: Pennsylvania Department of Health Asthma Surveillance System using **Pennsylvania School Health Statistics** data. For more information see 2006 Pennsylvania Asthma Burden Report and the PA Department of Health website www.health.state.pa.us

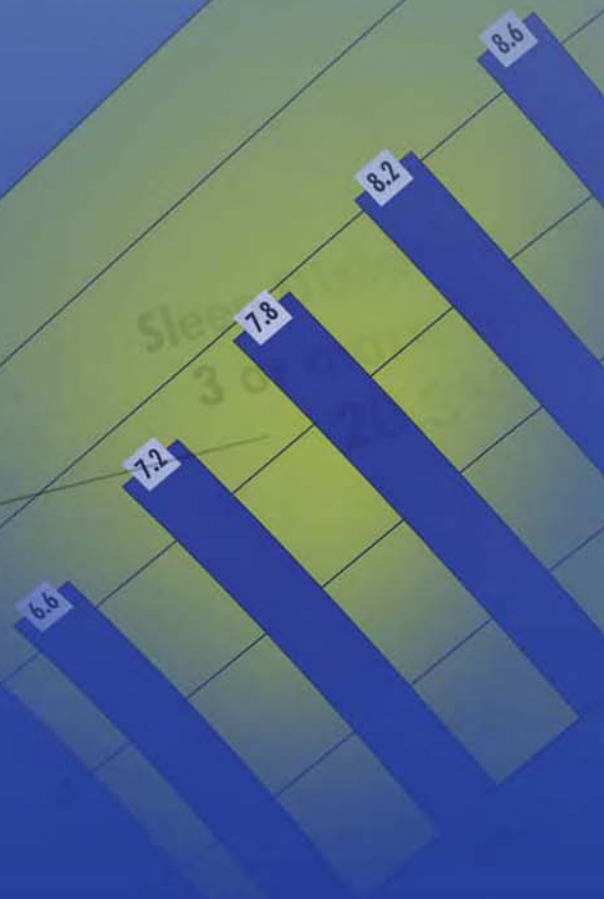
⁵ Source: Pennsylvania Department of Health Asthma Surveillance System using **Pennsylvania Health Care Cost Containment Council** data. For more information see 2006 Pennsylvania Asthma Burden Report and the PA Department of Health website www.health.state.pa.us

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The Pennsylvania Department of Health specifically disclaims responsibility for any analyses, interpretations, or conclusions made by the user of this report.



Sleep Disturbance
1 to 2 nights
20.0%



Sleep Disturbance
3 or more nights

Age 50 or more
11.5%

Age 35 to 49
14.8%

